

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Peter JACOBS

Attorney Docket No: 7600-X06-006

Application No.: National Stage Filing of

PCT/NL2005/000048

Filed: Herewith

For: METHOD AND MEANS FOR THE EMISSION
OF AN AIR CURRENT IN THE DIRECTION OF
THE BREATHING ZONE OF A USER

INTERNATIONAL PRELIMINARY EXAMINATION REPORT
AND ANNEX IN ENGLISH

NOTE:

1. Annex includes replacement pages 2 and 2a which replace page 2 of the specification as originally filed.
2. Annex includes amended claims which replace the claims as originally filed.

PATENT COOPERATION TREATY

Handwritten: J. de Wit / KFH

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

PCT

To:

WINCKELS, J.H.F.
Johan de Wittlaan 7
NL-2517 JR Den Haag
PAYS-BAS

Handwritten: nat / Reg. fase II

Handwritten: 23-07-06 (gun)

Stamp: 10 APR 2006

**NOTIFICATION OF TRANSMITTAL OF
THE INTERNATIONAL PRELIMINARY
REPORT ON PATENTABILITY**
(PCT Rule 71.1)

Applicant's or agent's file reference P67878PC00		IMPORTANT NOTIFICATION	
International application No. PCT/NL2005/000048	International filing date (day/month/year) 24.01.2005	Priority date (day/month/year) 23.01.2004	
Applicant NEDERLANDSE ORGANISATIE VOOR TOEGEPAST...			


1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary report on patentability and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.
4. **REMINDER**

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary report on patentability. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

The applicant's attention is drawn to Article 33(5), which provides that the criteria of novelty, inventive step and industrial applicability described in Article 33(2) to (4) merely serve the purposes of international preliminary examination and that "any Contracting State may apply additional or different criteria for the purposes of deciding whether, in that State, the claimed inventions is patentable or not" (see also Article 27(5)). Such additional criteria may relate, for example, to exemptions from patentability, requirements for enabling disclosure, clarity and support for the claims.

<p>Name and mailing address of the international preliminary examining authority:</p> <p> European Patent Office - P.B. 5818 Patentaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016</p>	<p>Authorized Officer</p> <p>De Jager, R</p> <p>Tel. +31 70 340-3390</p>
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PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference P67878PC00	FOR FURTHER ACTION		See Form PCT/PEA/416
International application No. PCT/NL2005/000048	International filing date (day/month/year) 24.01.2005	Priority date (day/month/year) 23.01.2004	
International Patent Classification (IPC) or national classification and IPC INV. B60R11/02 B60H1/24			
Applicant NEDERLANDSE ORGANISATIE VOOR TOEGEPAST-...			
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 6 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input type="checkbox"/> sent to the applicant and to the International Bureau) a total of sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>			
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the report</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>			
Date of submission of the demand 23.11.2005	Date of completion of this report 11.04.2006		
Name and mailing address of the international preliminary examining authority:  European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016	Authorized officer D'Sylva, C Telephone No. +31 70 340-2745		



INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY

International application No.
PCT/NL2005/000048

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☒ This report is based on translations from the original language into the following language english, which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4)
 - ☒ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the elements* of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

Description, Pages

1, 3-9	as originally filed
2	received on 23.11.2005 with letter of 23.11.2005

Claims, Numbers

2, 4-11, 13-21	as originally filed
1, 3, 12	received on 23.11.2005 with letter of 23.11.2005

Drawings, Sheets

1/2, 2/2	as originally filed
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- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
 - ☐ any table(s) related to sequence listing (*specify*):
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
 - ☐ any table(s) related to sequence listing (*specify*):

* If item 4 applies, some or all of these sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY

International application No.
PCT/NL2005/000048

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-21
	No: Claims	
Inventive step (IS)	Yes: Claims	1-21
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-21
	No: Claims	

2. Citations and explanations (Rule 70.7):

see separate sheet

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement

Reference is made to the following documents:

- D1: DE 101 63 051 A1 (DAIMLERCHRYSLER AG) 10 July 2003 (2003-07-10)
D2: PATENT ABSTRACTS OF JAPAN vol. 0110, no. 14 (M-553), 14 January 1987
(1987-01-14) & JP 61 188243 A (MITSUBISHI ELECTRIC CORP), 21 August 1986
(1986-08-21)
D3: FR-A-2 620 293 (CAILLEAU MICHEL) 10 March 1989 (1989-03-10)

1. Novelty;

The document D1 is regarded as being the closest prior art to the subject-matter of claim 1, and shows (the references in parentheses applying to this document):
a method for the emission of an air current in the direction of the neck of a user, from the rear of the head, wherein air emitting means emit an air current from at least one air emitting position which is fixed relative to the respective sound emitting position;

The subject-matter of claim 1 differs from this known method in that;

- the emission of the air current is in the direction of the breathing zone;
- the sound emitting means, comprising a loud speaker, emit sound from at least one sound emitting position adjustable by the user, and the user brings the sound emitting position in accordance with the position of his/her ear by optimization of the received sound.

Remarks;

- D1 teaches the emission of warm air from the seatback or the headrest towards the neck on the back side, the shoulders and head but does not at all teach the emission of air in the direction of the breathing zone, i.e. the frontal part of the head.
- As for claims 3 and 12, the main difference with the subject-matter of claim 1 also remains the emission of the air current in the direction of the breathing zone of a user.

The subject-matter of claims 1, 3 and 12 is therefore new (Article 33(2) PCT).

2. Inventive step;

2.1 As for claim 1;

The problems to be solved by the present invention may be regarded as emitting the air current in the direction of the breathing zone and bringing the loud speaker means in accordance with the position of the ear by optimization of the received sound.

D2 solves the problem of bringing the loud speaker means in accordance with the position of the ear by optimization of the received sound by means of speaker sections, coupled to both the left and right sides of each head rest section by means of a movable body device; no air emitting device is suggested in documents D2 or D3, nor any sound emitting device in D1; additionnally, should the air emitting device of D1 be installed on the head rest of D2, the air emitting position would not be fixed relative to the respective sound emitting position; this would be contradictory with claim 1 wherein the air emitting position is fixed relative to the respective sound emitting position.

As specified above, D3, cited as representative of the concept of a headrest comprising fixedly integrated loud speakers, does not suggest the integration in this headrest of any air emitting means. The combination of the two devices , air emitting means and sound emitting means is therefore not obvious for the person skilled in the art.

2.2 As for claims 3 and 12 ; same reasoning applies to these claims.

3. Novelty and inventive step; dependent claims;

Claims 2, 4 to 11 an 13 to 21 are dependent on claim 1, 3, and 12 respectively and as such also meet the requirements of the PCT with respect to novelty and inventive step.

INTERNATIONAL PRELIMINARY
REPORT ON PATENTABILITY
(SEPARATE SHEET)

International application No.

PCT/NL2005/000048

4. Industrial applicability; automotive industry, in particular.

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New Page 2

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on the assumption that, if the seat is provided with "sound emitting means" such as, for instance, loudspeakers connected to the seat or integrated therein and intended for individual transmission of sound - for instance the sound of a television film in an airplane - the user/passenger will want to set
5 the position of this sound emitting source or these sources relative to his/her head such that the received sound is optimal, the more so since the sound is emitted rather softly to prevent noise nuisance to the surrounding passengers. The passenger will further direct his efforts to dampening ambient sounds as much as possible by means of, for instance, dampening material around the
10 source of emission. As the passenger will want to set the position of head and loudspeakers to optimal sound reception, an "incentive" is created to simultaneously set the air emission means having to provide the passenger individually with outflowing fresh air to be optimal, that is, by giving the air outflow opening(s) a fixed position relative to the position of the sound
15 source(s), all this in accordance with the mutual position of the breathing zone and ears of an average passenger.

It is noted that the German patent publication DE 101 63 051 discloses a seat in an open car, wherein a headrest of the seat is provided with a fan, fan channels and a heating element for generating a heated air flow near
20 the head of the car driver.

Preferably, the sound will be emitted in stereo by a left side and a right side sound member. The air current can then be emitted to the breathing zone of the user from a left side and/or a right side outflow position, fixed in accordance with the mutual position of the breathing zone with respect to the
25 left or right ear, respectively, of an average user. When the user brings the emission position for both the left side sound channel and the right side sound channel in accordance with the position of his ears by optimization of the

New Page 2a

received sound, then, the air current openings too will be brought in the proximity of the breathing zone. When only one of the channels is listened to, then too, the fresh air current will be blown out at the correct position, i.e. via the outlet opening that is fixedly connected to the sound emitter that indeed is
5 used.

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(45)

New Claims

1. A method for the emission of an air current in the direction of the breathing zone (9) of a user (10), wherein
 - sound emitting means (5, 6), comprising a loudspeaker, emit sound from at least one sound emitting position (a, b) adjustable by the user;
 - air emitting means (7, 8) emit an air current from at least one air emitting position (c, d) which is fixed relative to the respective sound emitting position (a, b);
 - the user brings the sound emitting position in accordance with the position of his/her ear (11, 12) by optimization of the received sound.
2. A method according to claim 1, wherein
 - the sound to the left ear (11) of the user is emitted by a left side sound emitting member (5) from a left side sound emitting position (a) and/or the sound to the right ear of the user is emitted by a right side sound emitting member from a right side sound emitting position (b);
 - the air current to the breathing zone (9) of the user is emitted from a left side air emitting member (7) from a left side air emitting position (c), a right side air emitting member (8) from a right side air emitting position (d), respectively;
 - the left side air emitting position (c) is fixed relative to the left side sound emitting position (a) in accordance with the mutual position of the breathing zone (9) relative to the left ear (11) of an average user, the right side air emitting position (d) is fixed relative to the right side sound emitting position (b) in accordance with the mutual position of the breathing zone (9) relative to the right ear (12) of an average user, respectively;

the user (10) brings the left side sound emitting position (a) and the right side sound emitting position (b), respectively, in accordance with the position of his/her left, right ear (11, 12) respectively, by optimization of the received sound.

5 3. A seat, comprising sound emitting means (5, 6), comprising a loudspeaker, suitable for the emission of sound in the proximity of an ear (11, 12) of a respective user (10) of the seat, which sound emitting means are coupled to air emitting means (7, 8) suitable for the emission of an air current in the proximity of the breathing zone (9) of this same user.

10 4. A seat according to claim 3, wherein the sound emitting and the air emitting means are included in, or connected to a headrest forming part of the seat.

5. A seat according to claim 3, wherein the sound emitting means comprise a left side sound emitting member (5) and/or a right side sound
15 emitting member (6) for the emission of sound in the proximity of the left and right ear (11, 12), respectively, of the user, the air emitting means comprising a left side air emitting member (7) and a right side air emitting member (8), respectively, for the emission of an air current in the proximity of the breathing zone (9) of the user.

20 6. A seat according to claims 4 and 5, wherein the headrest comprises a left and a right lateral element (2, 3).

7. A seat according to claim 6, wherein the left side sound emitting member (5) and the left side air emitting member (7) are included in the left lateral element (2) and the right side sound emitting member (6) and the right
25 side air emitting member (8) are included in the right lateral element (3).

8. A seat according to claim 6, wherein the orientation of at least one of the lateral elements (2, 3) is laterally adjustable and/or adjustable forwards and backwards and/or height-adjustable.

9. A seat according to claim 8, provided with first regulating means for regulating the intensity of the sound emission and/or the air emission depending on the orientation of the respective lateral element.

10. A seat according to claim 9, wherein the first regulating means are
5 suitable for interrupting the sound emission and/or air emission when the respective lateral element is in a particular orientation.

11. A seat according to claim 8, provided with second regulating means for regulating the direction in which the air current is emitted via the air emitting members (7, 8), depending on the orientation of the respective lateral
10 elements (2, 3).

12. A headrest, comprising sound emitting means (5, 6), comprising a loudspeaker, suitable for the emission of sound in the proximity of an ear (11, 12) of a respective user (10), which sound emitting means are coupled to air emitting means (7, 8) suitable for the emission of an air current in the
15 proximity of the breathing zone (9) of this same user.

13. A headrest according to claim 12, wherein the sound emitting means comprise a left side sound emitting member (5) and/or a right side sound emitting member (6) for the emission of sound in the proximity of the left and right ear (11, 12), respectively, of the user, and wherein the air emitting means
20 comprise a left side air emitting member (7) and a right side air emitting member (8), respectively, for the emission of an air current in the proximity of the breathing zone (9) of the user.

14. A headrest according to claim 12, comprising a left and a right lateral element (2, 3).

25 15. A headrest according to claim 14, wherein the left side sound emitting member (5) and the left side air emitting member (7) are included in the left lateral element (2) and the right side sound emitting member (6) and the right side air emitting member (8) are included in the right lateral element (3).

16. A headrest according to claim 14, wherein the orientation of at least one of the lateral elements (2, 3) is laterally adjustable and/or adjustable forwards and backwards and/or height-adjustable.

17. A headrest according to claim 16, provided with first regulating
5 means for regulating the intensity of the sound emission and/or air emission depending on the orientation of the respective lateral element.

18. A headrest according to claim 17, wherein the first regulating means are suitable for interrupting the sound emission and/or air emission when the respective lateral element is in a particular orientation.

10 19. A headrest according to claim 16, provided with second regulating means for regulating the direction in which the air current is emitted via the air emitting members (7, 8) depending on the orientation of the respective lateral elements (2, 3).

20. A headrest according to any one of claims 12 – 19, wherein the
15 position of at least one of the air emitting means is invariant relative to the position of one of the sound emitting means.

21. A seat according to any one of claims 3 – 11, wherein the position of at least one of the air emitting means is invariant relative to the position of one of the sound emitting means.